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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,075	03/02/2004	Katsuhiko Tsumori	2004-0323	1115

513 7590 12/27/2005

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EXAMINER

NI, SUHAN

ART UNIT PAPER NUMBER

2646

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/790,075	TSUMORI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Suhan Ni	2646	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/986,668.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/22/05, 9/28/05</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

1. This communication is responsive to the amendment filed 9/25/2005.

***Claim Objections***

2. Claims 1 is objected to because of the following informalities:

Regarding claim 1, in line 20: “the said”.

Correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inanaga (U. S. Pat. - 4,176,249) in view of Varla et al. (U. S. Pat. – 6,373,956).

Regarding claim 1, Inanaga et al. disclose a speaker apparatus (10) comprising: a speaker unit (1) including a main converter (5A) having a first movable portion (6A) capable of moving along a predetermined axial line, said main converter for converting an electrical signal into mechanical vibration; a vibration plate (8) attached to said first movable portion, said vibration plate for emitting sound waves to a front side of said main converter; and a frame (4) fixed to said main converter, said frame vibratably supporting said vibration plate from a rear side of said vibration plate; a compensation converter (5B) for converting an electrical signal into mechanical vibration, said compensation converter being fixed to a rear side of said main converter and

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having a second movable portion (6B) capable of moving along the predetermined axial line; and a signal source for generating an electrical signal corresponding to an acoustic signal to be outputted inherently.

Inanaga et al. do not clearly teach a compensation mass body serving as a load of mechanical vibration of said compensation converter as claimed. Since Varla et al. disclose a similar structured speaker apparatus including further providing a secondary compensation damping element for a primary damping element (Fig. 4), it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide a suitable secondary compensation damping element taught by Varla et al. for the speaker apparatus, in order to desirably reduce undesirable vibration.

Neither Inanaga et al. nor Varla et al. clearly teach a signal processing circuit for receiving an output of the said signal source, amplifying or attenuating the output, and supplying said main converter and said compensation converter with respective electrical signals such that said first movable portion and said second movable portion move in opposite directions at the same time as claimed. Since providing a suitable signal processing circuit for effectively and efficiently driving a loudspeaker is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide a suitable signal processing circuit, such as including amplifier, for the apparatus as an alternate choice, in order to obtain more desirable acoustic effects, and furthermore, connecting a main speaker and a compensation speaker to receive input signals in the same phase is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide a suitable connection, such as the same phase

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connection for connecting converters of the apparatus as an alternate choice, in order to further reduce undesirable vibration.

Regarding claims 2-3, neither Inanaga et al. nor Varla et al. clearly teach of the details of a multi-channel driving circuitry as claimed. Since providing a multi-channel driving circuitry for multi-channel acoustic signal processing for an acoustic apparatus is very well known in the art, it therefore would have been obvious to one skilled in the art at the time the invention was made to be motivated to provide a suitable multi-channel processing circuitry, such as comprising filtering device and/or amplifier for each channel desirably, for the apparatus as an alternate choice, in order to obtain more desirable acoustic effects.

#### ***Response to Amendment***

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

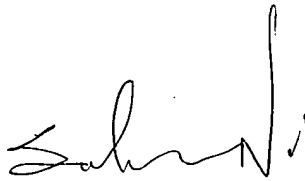
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Suhan Ni** whose telephone number is **(571)-272-7505**, and the number for fax machine is **(571)-273-7505**. The examiner can normally be reached on Tuesday and Thursday from 10:00 am to 8:00 pm, and may be reached on Monday, Wednesday and Friday from 10:00 am to 8:00 pm. If it is necessary, the examiner's supervisor, **Sinh N. Tran**, can be reached at **(571)-272-7564**.

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6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (**PAIR**) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600, or please see <http://www.uspto.gov/web/info/2600>.

December 17, 2005



**SUHAN N.**  
**PRIMARY EXAMINER**